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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,216	01/14/2002	Arihiro Takeda	1117.66107	5771

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EXAMINER

DUONG, THOI V

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/047,216	<b>Applicant(s)</b> TAKEDA ET AL.	
	<b>Examiner</b> Thoi V. Duong	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 8-12 ~~is~~ are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8, 11 and 12 ~~is~~ are rejected.
- 7) ☒ Claim(s) 9 and 10 ~~is~~ are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) None
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/5/06.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on June 05, 2006 has been entered.

Claims 8-12 are currently pending in this application.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (Kim, US 6,567,144 B1) in view of Kuo (US 6,424,397 B1).

As shown in Figs. 4-8, Kim discloses a liquid crystal display device comprising:  
a first substrate 200 having thereon a pixel electrode 20 and an active element TFT (col. 6, lines 49-56);

a second substrate 100 having thereon an opposed electrode 10;

a liquid crystal layer interposed between said first and second substrates with said pixel and opposed electrodes facing each other (Fig. 7);

a first orientation control element 171 provided near an edge 19 of the pixel electrode 20 on said second substrate 100 and giving an orientation regulating force to liquid crystal molecules near the edge of said pixel electrode on said first substrate, the orientation regulating force counteracting an orientation regulating force given by the edge of said pixel electrode to said liquid crystal molecules of said liquid crystal layer, so that said liquid crystal molecules including those near said edge are oriented in a substantially the same direction, when difference in orientation direction among the liquid crystal molecules adjacent to each other near said edge is caused by the orientation regulating force given to the liquid crystal molecules of said liquid crystal layer by said edge of said pixel electrode when voltage is being applied between said pixel and opposed electrodes (col. 6, lines 28-39 and col. 7, lines 50-52); and

a second orientation control element 27 giving an orientation regulating force that orients the liquid crystal molecules in a predetermined direction different from the directions of the orientation regulating force given by the edge 19 of the pixel electrode 20 and the orientation regulating force given by said first orientation control element 171 (Fig. 8).

However, the first orientation control element of Kim is not locally provided near an edge of the pixel electrode on the first substrate.

As shown in Figs. 7E, 8E and 8D, Kuo discloses a liquid crystal display device comprising:

Art Unit: 2871

a first substrate 700 having thereon a pixel electrode 712 and an active element (as a thin film transistor TFT 218 in Fig. 2A);

a second substrate 702 having thereon an opposed electrode 716b;

a liquid crystal layer 720 interposed between said first and second substrates with said pixel and opposed electrodes facing each other;

a first orientation control element 718a locally provided near an edge of the pixel electrode 712 on said first substrate 700 (Figs. 7E and 8D, and col. 10, lines 55-63); and

a second orientation control element 714 (Figs. 7E and 8D, and col. 10, lines 55-63).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display device of Kim with the teaching of Kuo by locally providing the first orientation control element near an edge of the pixel electrode on the first substrate in order to prevent the liquid crystal molecules from erroneous tilting near the edge of the pixel electrode (col. 10, lines 60-63).

Re claim 11, as shown in Figs. 7E and 8D of Kuo, the first orientation control element 718a is a hollow (slit) formed in a part other than the pixel electrode 712.

Re claim 12, Kuo discloses that a dielectric anisotropy of the liquid crystal molecules of the liquid crystal layer is negative (col. 16, lines 13-15). Kim also discloses the same (col. 1, lines 61-64).

***Allowable Subject Matter***

4. Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed. Specifically,

Re claim 9, none of the prior art of record discloses, in combination with other limitations as claimed, that the first orientation control element is constituted by a plurality of fine slits formed locally in said pixel electrode in an oblique direction relative to an extending direction of said edge or a plurality of fine protrusions formed locally on said pixel electrode in an oblique direction relative to the extending direction of said edge, and said fine slits or said fine protrusions locally give to the liquid crystal molecules of said liquid crystal layer an orientation regulating force in a direction parallel to said fine slits or said fine protrusions.

The most relevant reference, US 6,424,397 B1 to Kuo, fails to disclose the claimed invention in which the fine slits locally give to the liquid crystal molecules of said liquid crystal layer an orientation regulating force in a direction parallel to said fine slits or said fine protrusions. As shown in Fig. 8D, Kuo only discloses a first orientation element 718 constituted by a slit 718 formed locally on the pixel electrode 712 in an oblique direction relative to the extending direction of the vertical edge of the pixel electrode 712.

Art Unit: 2871

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

Thoi V. Duong



8/15/2006